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| FACULTY:   | <b>Faculty of Civil Engineering, Environment and Geodesy</b>  |
| FIELD OF STUDY:  | <b>Civil engineering</b>  |
| ERASMUS COORDINATOR OF THE FACULTY:  | dr inż. Jakub Kalita  |
| E-MAIL ADDRESS OF THE COORDINATOR:   | jakub.kalita@tu.koszalin.pl   |
| COURSE TITLE:  | <b>Concrete Structures 1</b>  |
| LECTURER'S NAME:   | dr inż. Mariusz Staszewski & dr hab. inż. Jacek Domski  |
| E-MAIL ADDRESS OF THE LECTURER:  | staszewski@wilsig.tu.koszalin.pl<br>domski@wilsig.tu.koszalin.pl  |
| ECTS POINTS FOR THE COURSE:  | 4   |
| ACADEMIC YEAR:   | 2018/2019   |
| SEMESTER:<br>(W – winter, S – summer)  | W   |
| HOURS IN SEMESTER:   | 45+30   |
| LEVEL OF THE COURSE:<br>(1 <sup>st</sup> cycle, 2 <sup>nd</sup> cycle, 3 <sup>rd</sup> cycle)  | 1 <sup>st</sup> cycle   |
| TEACHING METHOD:<br>(lecture, laboratory, group tutorials, seminar, other-what type?)  | Lecture, group tutorials<br>(individual consultations)  |
| LANGUAGE OF INSTRUCTION:   | English   |
| ASSESSMENT METOD:<br>(written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | Written exam and oral exam, Project work  |
| COURSE CONTENT:  | Basic information: historical review, definitions, classifications. Properties of concrete and reinforcing steel. Bond between reinforcing steel and concrete. Durability of reinforced concrete structures. Bending with or without axial force, shear, torsion, punching. Design with strut and tie models. Cracking and deflection. Rules for detailing reinforcement. |
| ADDITIONAL INFORMATION:  | Course based on trice approaches of European standards.   |

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| FIELD OF STUDY:  | <b>Civil engineering</b>   |
| ERASMUS COORDINATOR OF THE FACULTY:  | dr inż. Jakub Kalita   |
| E-MAIL ADDRESS OF THE COORDINATOR:   | jakub.kalita@tu.koszalin.pl  |
| COURSE TITLE:  | <b>Concrete Structures 2</b>   |
| LECTURER'S NAME:   | dr inż. Mariusz Staszewski & dr hab. inż. Jacek Domski   |
| E-MAIL ADDRESS OF THE LECTURER:  | staszewski@wilsig.tu.koszalin.pl<br>domski@wilsig.tu.koszalin.pl   |
| ECTS POINTS FOR THE COURSE:  | 6  |
| ACADEMIC YEAR:   | 2018/2019  |
| SEMESTER:<br>(W – winter, S – summer)  | S  |
| HOURS IN SEMESTER:   | 45+30 +15  |
| LEVEL OF THE COURSE:<br>(1 <sup>st</sup> cycle, 2 <sup>nd</sup> cycle, 3 <sup>rd</sup> cycle)  | 2 <sup>nd</sup> cycle  |
| TEACHING METHOD:<br>(lecture, laboratory, group tutorials, seminar, other-what type?)  | Lecture, group tutorials<br>(individual consultations)   |
| LANGUAGE OF INSTRUCTION:   | English  |
| ASSESSMENT METOD:<br>(written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | Written exam, Project work, Written reports  |
| COURSE CONTENT:  | Two way bent slabs, flat slabs with and without drop panels , two-way joist floor, stairs, footings and foundations, retaining walls, fire design. |
| ADDITIONAL INFORMATION:  | Course based on trice approaches of European standards.  |

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| FIELD OF STUDY:  | <b>Civil engineering</b>   |
| ERASMUS COORDINATOR OF THE FACULTY:  | dr inż. Jakub Kalita   |
| E-MAIL ADDRESS OF THE COORDINATOR:   | jakub.kalita@tu.koszalin.pl  |
| COURSE TITLE:  | <b>Computer Aided Design of Reinforced Concrete Structures</b>   |
| LECTURER'S NAME:   | dr inż. Mariusz Staszewski & dr hab. inż. Jacek Domski   |
| E-MAIL ADDRESS OF THE LECTURER:  | staszewski@wilsig.tu.koszalin.pl<br>domski@wilsig.tu.koszalin.pl   |
| ECTS POINTS FOR THE COURSE:  | 3  |
| ACADEMIC YEAR:   | 2018/2019  |
| SEMESTER:<br>(W – winter, S – summer)  | S  |
| HOURS IN SEMESTER:   | 15+30  |
| LEVEL OF THE COURSE:<br>(1 <sup>st</sup> cycle, 2 <sup>nd</sup> cycle, 3 <sup>rd</sup> cycle)  | 1 <sup>st</sup> cycle  |
| TEACHING METHOD:<br>(lecture, laboratory, group tutorials, seminar, other-what type?)  | Lecture, laboratory<br>(individual consultations)  |
| LANGUAGE OF INSTRUCTION:   | English  |
| ASSESSMENT METOD:<br>(written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | Class test, Project work   |
| COURSE CONTENT:  | General rules, loads, combinations, two way bent slabs, flat slabs with and without drop panels , two-way joist floor, walls, deep beams, stairs, footings and foundations, tanks. |
| ADDITIONAL INFORMATION:  | Course based on trice approaches of European standards.  |

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| ERASMUS COORDINATOR OF THE FACULTY:  | dr inż. Jakub Kalita   |
| E-MAIL ADDRESS OF THE COORDINATOR:   | jakub.kalita@tu.koszalin.pl  |
| COURSE TITLE:  | <b>Strength of materials 1</b>   |
| LECTURER'S NAME:   | dr hab. inż. Krzysztof Cichocki  |
| E-MAIL ADDRESS OF THE LECTURER:  | krzysztof.cichocki@tu.koszalin.pl  |
| ECTS POINTS FOR THE COURSE:  | 5  |
| ACADEMIC YEAR:   | 2018/2019  |
| SEMESTER:<br>(W – winter, S – summer)  | W  |
| HOURS IN SEMESTER:   | 15   |
| LEVEL OF THE COURSE:<br>(1 <sup>st</sup> cycle, 2 <sup>nd</sup> cycle, 3 <sup>rd</sup> cycle)  | 1 <sup>st</sup> cycle  |
| TEACHING METHOD:<br>(lecture, laboratory, group tutorials, seminar, other-what type?)  | Group tutorials, individual consultations  |
| LANGUAGE OF INSTRUCTION:   | English  |
| ASSESSMENT METOD:<br>(written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | Project work, written reports  |
| COURSE CONTENT:  | Internal forces in trusses, beams and frames. Diagrams of internal forces. Deflection of trusses, beams and frames – methods of solution. Statically determinate structures – methods of solution (trusses, beams and frames: 2D and 3D). Influence lines, diagrams of maximum values for internal forces. |
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| ERASMUS COORDINATOR OF THE FACULTY:  | dr inż. Jakub Kalita  |
| E-MAIL ADDRESS OF THE COORDINATOR:   | jakub.kalita@tu.koszalin.pl   |
| COURSE TITLE:  | <b>Strength of materials 2</b>  |
| LECTURER'S NAME:   | dr hab. inż. Krzysztof Cichocki   |
| E-MAIL ADDRESS OF THE LECTURER:  | krzysztof.cichocki@tu.koszalin.pl   |
| ECTS POINTS FOR THE COURSE:  | 4   |
| ACADEMIC YEAR:   | 2018/2019   |
| SEMESTER:<br>(W – winter, S – summer)  | S   |
| HOURS IN SEMESTER:   | 15  |
| LEVEL OF THE COURSE:<br>(1 <sup>st</sup> cycle, 2 <sup>nd</sup> cycle, 3 <sup>rd</sup> cycle)  | 2 <sup>nd</sup> cycle   |
| TEACHING METHOD:<br>(lecture, laboratory, group tutorials, seminar, other-what type?)  | Group tutorials, individual consultations   |
| LANGUAGE OF INSTRUCTION:   | English   |
| ASSESSMENT METOD:<br>(written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | Project work, written reports   |
| COURSE CONTENT:  | Stresses and strains, Hooke's law. Primary stresses in 2D. Stresses in beams: axial load, bending, torsion, combination of loads. Stability of columns under axial load. Strength of materials in combined state of stresses. |
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| ERASMUS COORDINATOR OF THE FACULTY:   | dr inż. Jakub Kalita   |
| E-MAIL ADDRESS OF THE COORDINATOR:  | jakub.kalita@tu.koszalin.pl  |
| COURSE TITLE:   | <b>Structural mechanics 1</b>  |
| LECTURER'S NAME:  | dr hab. inż. Krzysztof Cichocki  |
| E-MAIL ADDRESS OF THE LECTURER:   | krzysztof.cichocki@tu.koszalin.pl  |
| ECTS POINTS FOR THE COURSE:   | 5  |
| ACADEMIC YEAR:  | 2018/2019  |
| SEMESTER:<br>(W – winter, S – summer)   | W  |
| HOURS IN SEMESTER:  | 15   |
| LEVEL OF THE COURSE:<br>(1 <sup>st</sup> cycle, 2 <sup>nd</sup> cycle, 3 <sup>rd</sup> cycle)   | 1 <sup>st</sup> cycle  |
| TEACHING METHOD:<br>(lecture, laboratory, group tutorials, seminar, other-what type?)   | Group tutorials, individual consultations  |
| LANGUAGE OF INSTRUCTION:  | English  |
| ASSESSMENT METHOD:<br>(written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | Project work, written reports  |
| COURSE CONTENT:   | Statically indeterminate structures (trusses, beams, frames, arches). Principle of virtual works. Method of forces, displacements. Influence lines in statically indeterminate structures. |
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| ERASMUS COORDINATOR OF THE FACULTY:   | dr inż. Jakub Kalita   |
| E-MAIL ADDRESS OF THE COORDINATOR:  | jakub.kalita@tu.koszalin.pl  |
| COURSE TITLE:   | <b>Structural mechanics 2</b>  |
| LECTURER'S NAME:  | dr hab. inż. Krzysztof Cichocki  |
| E-MAIL ADDRESS OF THE LECTURER:   | krzysztof.cichocki@tu.koszalin.pl  |
| ECTS POINTS FOR THE COURSE:   | 3  |
| ACADEMIC YEAR:  | 2018/2019  |
| SEMESTER:<br>(W – winter, S – summer)   | S  |
| HOURS IN SEMESTER:  | 15   |
| LEVEL OF THE COURSE:<br>(1 <sup>st</sup> cycle, 2 <sup>nd</sup> cycle, 3 <sup>rd</sup> cycle)   | 1 <sup>st</sup> cycle  |
| TEACHING METHOD:<br>(lecture, laboratory, group tutorials, seminar, other-what type?)   | Group tutorials, individual consultations  |
| LANGUAGE OF INSTRUCTION:  | English  |
| ASSESSMENT METHOD:<br>(written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | Project work, written reports  |
| COURSE CONTENT:   | Stability of structures (continuous beams, frames, arches) in elastic and elastoplastic domain. Dynamics of discrete (single and multiple degrees of freedom) systems. Dynamic response of selected structures to various types of load. Dynamics of systems with continuous mass distribution. Fundamentals of numerical analysis for dynamic systems |
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| FIELD OF STUDY:  | <b>Civil engineering</b>   |
| ERASMUS COORDINATOR OF THE FACULTY:  | dr inż. Jakub Kalita   |
| E-MAIL ADDRESS OF THE COORDINATOR:   | jakub.kalita@tu.koszalin.pl  |
| COURSE TITLE:  | <b>Technology and properties of ordinary concrete</b>  |
| LECTURER'S NAME:   | dr hab. inż. Jacek Katzer  |
| E-MAIL ADDRESS OF THE LECTURER:  | jacek.katzer@tu.koszalin.pl  |
| ECTS POINTS FOR THE COURSE:  | 6  |
| ACADEMIC YEAR:   | 2018/2019  |
| SEMESTER:<br>(W – winter, S – summer)  | S  |
| HOURS IN SEMESTER:   | 30   |
| LEVEL OF THE COURSE:<br>(1 <sup>st</sup> cycle, 2 <sup>nd</sup> cycle, 3 <sup>rd</sup> cycle)  | 2 <sup>nd</sup> cycle  |
| TEACHING METHOD:<br>(lecture, laboratory, group tutorials, seminar, other-what type?)  | group tutorials & laboratory   |
| LANGUAGE OF INSTRUCTION:   | English  |
| ASSESSMENT METOD:<br>(written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | project work & presentation  |
| COURSE CONTENT:  | Aggregates: types, testing and properties Cement as a binder. Mix designing. Workability and other properties of a fresh concrete mix. Hardened concrete and its testing. Strength classes according to European standard. Durability associated properties. |
| ADDITIONAL INFORMATION:  | Course based on European standards.  |



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| ERASMUS COORDINATOR OF THE FACULTY:  | dr inż. Jakub Kalita  |
| E-MAIL ADDRESS OF THE COORDINATOR:   | jakub.kalita@tu.koszalin.pl   |
| COURSE TITLE:  | <b>Building materials</b>   |
| LECTURER'S NAME:   | dr hab. inż. Jacek Katzer   |
| E-MAIL ADDRESS OF THE LECTURER:  | jacek.katzer@tu.koszalin.pl   |
| ECTS POINTS FOR THE COURSE:  | 4   |
| ACADEMIC YEAR:   | 2018/2019   |
| SEMESTER:<br>(W – winter, S – summer)  | W   |
| HOURS IN SEMESTER:   | 15  |
| LEVEL OF THE COURSE:<br>(1 <sup>st</sup> cycle, 2 <sup>nd</sup> cycle, 3 <sup>rd</sup> cycle)  | 1 <sup>st</sup> cycle   |
| TEACHING METHOD:<br>(lecture, laboratory, group tutorials, seminar, other-what type?)  | Seminar, laboratory   |
| LANGUAGE OF INSTRUCTION:   | English   |
| ASSESSMENT METOD:<br>(written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | Written reports, class test   |
| COURSE CONTENT:  | Principal building materials – basic information, ceramic materials, binding materials (lime, gypsum, cement), mortars, ordinary concretes, special concretes, show of building materials, visit to the laboratory. |
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| FIELD OF STUDY:  | <b>Civil &amp; Structural Engineering</b>   |
| ERASMUS COORDINATOR OF THE FACULTY:  | dr inż. Jakub Kalita  |
| E-MAIL ADDRESS OF THE COORDINATOR:   | jakub.kalita@tu.koszalin.pl   |
| COURSE TITLE:  | <b>Technology and properties of fibre reinforced concrete 1</b>   |
| LECTURER'S NAME:   | dr hab. inż. Jacek Katzer   |
| E-MAIL ADDRESS OF THE LECTURER:  | jacek.katzer@tu.koszalin.pl   |
| ECTS POINTS FOR THE COURSE:  | 6   |
| ACADEMIC YEAR:   | 2018/2019   |
| SEMESTER:<br>(W – winter, S – summer)  | W   |
| HOURS IN SEMESTER:   | 30  |
| LEVEL OF THE COURSE:<br>(1 <sup>st</sup> cycle, 2 <sup>nd</sup> cycle, 3 <sup>rd</sup> cycle)  | 2 <sup>nd</sup> cycle   |
| TEACHING METHOD:<br>(lecture, laboratory, group tutorials, seminar, other-what type?)  | group tutorials & laboratory  |
| LANGUAGE OF INSTRUCTION:   | English   |
| ASSESSMENT METOD:<br>(written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | project work & presentation   |
| COURSE CONTENT:  | Origins and history of fibre reinforced concrete. Materials used for engineered fibre production. Types and properties of steel fibre used as a concrete reinforcement. Dosage of fibre and technology of concrete matrix production. Specific mechanical properties of fibre reinforced concrete. Methods of destructive testing of fibre reinforced concrete. Applications and durability of fibre reinforced concrete. |
| ADDITIONAL INFORMATION:  | Course based on trice approaches of European, American and Japanese standards.  |

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| FIELD OF STUDY:  | <b>Civil &amp; Structural Engineering</b>   |
| ERASMUS COORDINATOR OF THE FACULTY:  | dr inż. Jakub Kalita  |
| E-MAIL ADDRESS OF THE COORDINATOR:   | jakub.kalita@tu.koszalin.pl   |
| COURSE TITLE:  | <b>Technology and properties of fibre reinforced concrete 2</b>   |
| LECTURER'S NAME:   | dr hab. inż. Jacek Katzer   |
| E-MAIL ADDRESS OF THE LECTURER:  | jacek.katzer@tu.koszalin.pl   |
| ECTS POINTS FOR THE COURSE:  | 6   |
| ACADEMIC YEAR:   | 2018/2019   |
| SEMESTER:<br>(W – winter, S – summer)  | S   |
| HOURS IN SEMESTER:   | 30  |
| LEVEL OF THE COURSE:<br>(1 <sup>st</sup> cycle, 2 <sup>nd</sup> cycle, 3 <sup>rd</sup> cycle)  | 3 <sup>rd</sup> cycle   |
| TEACHING METHOD:<br>(lecture, laboratory, group tutorials, seminar, other-what type?)  | group tutorials & laboratory  |
| LANGUAGE OF INSTRUCTION:   | English   |
| ASSESSMENT METOD:<br>(written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | project work & presentation   |
| COURSE CONTENT:  | Types and properties of non-steel fibre used as a concrete reinforcement. Technology of SIFCON and its properties. Dosage of non-steel fibre and technology of concrete matrix production. Dynamic mechanical properties of fibre reinforced concrete. Methods of non-destructive testing of fibre reinforced concrete. SCC fibre reinforced concretes. |
| ADDITIONAL INFORMATION:  | Course based on trice approaches of European, American and Japanese standards.  |

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| FIELD OF STUDY:  | <b>Civil Engineering</b>   |
| ERASMUS COORDINATOR OF THE FACULTY:  | dr inż. Jakub Kalita   |
| E-MAIL ADDRESS OF THE COORDINATOR:   | jakub.kalita@tu.koszalin.pl  |
| COURSE TITLE:  | <b>Town planning and architecture</b>  |
| LECTURER'S NAME:   | mgr inż. arch. Maciej Siekierski   |
| E-MAIL ADDRESS OF THE LECTURER:  | architekt@wilsig.tu.koszalin.pl  |
| ECTS POINTS FOR THE COURSE:  | 3  |
| ACADEMIC YEAR:   | 2019/2020  |
| SEMESTER:<br>(W – winter, S – summer)  | W or S   |
| HOURS IN SEMESTER:   | 15   |
| LEVEL OF THE COURSE:<br>(1 <sup>st</sup> cycle, 2 <sup>nd</sup> cycle, 3 <sup>rd</sup> cycle)  | 1 <sup>st</sup> cycle  |
| TEACHING METHOD:<br>(lecture, laboratory, group tutorials, seminar, other-what type?)  | lecture/ group tutorials   |
| LANGUAGE OF INSTRUCTION:   | English  |
| ASSESSMENT METOD:<br>(written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | project work   |
| COURSE CONTENT:  | Architecture and urban planning - comparison of concepts. Principles of city design. Types of cities. The history of construction solutions in architecture. |
| ADDITIONAL INFORMATION:  | The course is based on examples from Europe, Asia, Central America and South America.  |

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| ERASMUS COORDINATOR OF THE FACULTY:   | dr inż. Jakub Kalita  |
| E-MAIL ADDRESS OF THE COORDINATOR:  | jakub.kalita@tu.koszalin.pl   |
| COURSE TITLE:   | <b>Mathematics I</b>  |
| LECTURER'S NAME:  | Prof. Volodymyr Sushch  |
| E-MAIL ADDRESS OF THE LECTURER:   | volodymyr.sushch@tu.koszalin.pl   |
| ECTS POINTS FOR THE COURSE:   | 5   |
| ACADEMIC YEAR:  | 2019/2020   |
| SEMESTER:<br>(W – winter, S – summer)   | W   |
| HOURS IN SEMESTER:  | 30 + 30   |
| LEVEL OF THE COURSE:<br>(1 <sup>st</sup> cycle, 2 <sup>nd</sup> cycle, 3 <sup>rd</sup> cycle)   | 1 <sup>st</sup> cycle   |
| TEACHING METHOD:<br>(lecture, laboratory, group tutorials, seminar, other-what type?)   | Lecture + practice  |
| LANGUAGE OF INSTRUCTION:  | English   |
| ASSESSMENT METHOD:<br>(written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | Written exam  |
| COURSE CONTENT:   | <p style="text-align: center;"><b>Linear algebra</b></p> <p>Complex numbers: the unit imaginary number, the Cartesian form or algebraic form of complex numbers, complex plane, absolute value, conjugation and distance, geometric interpretation of complex numbers, the operations on complex numbers, the polar form of complex numbers (the trigonometric form), Euler formula, Moivre's formula, Powers and roots of complex numbers, solutions of polynomial equations. Matrices: definition and notation, matrix operations, matrix multiplication, square matrices, determinant of a matrix, properties of determinants, matrix inverses, rank of a matrix . System of linear equations: matrix equation, solution set, solving linear systems (eliminations of variable - Gauss-Jordan elimination, Cramer's rule and other methods). Vectors in Euclidean space: vector operations, linear combination, linear independence, scalar product, vector product.</p> <p style="text-align: center;"><b>Differential calculus</b></p> <p>Differentiation and the derivative of real-valued functions of a single real variable: definition via difference quotients, the derivative as a function, continuity and differentiability, higher derivatives. Computing the derivative: derivatives of elementary functions, product rule, quotient rule, chain rule. Applications of the derivative: L'Hospital's rule, critical points, monotone increase and decrease, minimization and maximization, local minima and maxima (the first derivative test), using the second derivative, the concavity of the graph of a function.</p> |
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| ERASMUS COORDINATOR OF THE FACULTY:   | dr inż. Jakub Kalita  |
| E-MAIL ADDRESS OF THE COORDINATOR:  | jakub.kalita@tu.koszalin.pl   |
| COURSE TITLE:   | <b>Mathematics II</b>   |
| LECTURER'S NAME:  | Prof. Volodymyr Sushch  |
| E-MAIL ADDRESS OF THE LECTURER:   | volodymyr.sushch@tu.koszalin.pl   |
| ECTS POINTS FOR THE COURSE:   | 4   |
| ACADEMIC YEAR:  | 2019/2020   |
| SEMESTER:<br>(W – winter, S – summer)   | S   |
| HOURS IN SEMESTER:  | 30 + 30   |
| LEVEL OF THE COURSE:<br>(1 <sup>st</sup> cycle, 2 <sup>nd</sup> cycle, 3 <sup>rd</sup> cycle)   | 1 <sup>st</sup> cycle   |
| TEACHING METHOD:<br>(lecture, laboratory, group tutorials, seminar, other-what type?)   | Lecture + practice  |
| LANGUAGE OF INSTRUCTION:  | English   |
| ASSESSMENT METHOD:<br>(written exam, oral exam, class test, written reports, project work, presentation, continuous assessment, other – what type?) | Written exam  |
| COURSE CONTENT:   | <p style="text-align: center;"><b>Integral calculus</b></p> <p>The indefinite integral of real-valued functions of a single real variable (Formal definition, Properties of integrals, Finding the value of an integral (integration) , Higher derivatives)<br/> Techniques for computing integrals (Integration by substitution, Integration by parts, Integration by trigonometric substitution, Integration by reduction formulae, Integration by partial fractions, Integration using Euler's formula. The definite integral, the Riemann integral ( Definition and properties, Fundamental theorem of calculus - the Newton-Leibniz theorem). Applications of definite integrals, Improper integrals (Convergence of the integral, Singularities)</p> <p style="text-align: center;"><b>Ordinary differential equations (ODE)</b></p> <p>Basic concepts and classifying of differential equations. Solutions of differential equations (a particular solution and the general solution of a differential equation). Initial-value and boundary-value problems. First order ODE: Separable equations, Homogeneous equations, Exact equations, Linear equations (homogeneous and non-homogeneous), Bernoulli equations, Solved problems. Second order linear ODE: Linear differential equations (linearly independent solutions, the Wronskian), Linear homogeneous ODE with constant coefficients, (the characteristic equation), Linear non-homogeneous ODE with constant coefficients, The method of undetermined coefficients, Variation of parameters, Linear ODE with variable coefficients.</p> |
| ADDITIONAL INFORMATION:   |   |